

Applicant : Yang, et al.
Appl. No. : 09/347,845
Examiner : Bui, Vy Q.
Docket No. : 702563.40

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Seventh time amended) A stent, comprising:

a generally tubular body having a longitudinal axis, a circumference, a first end located at one longitudinal terminus of the tubular body, a second end located at a second longitudinal terminus of the tubular body, and having a size adapted for introduction into a body lumen, said tubular body having a central portion located between a first cylindrical band located at the first end of said tubular body and a second cylindrical band located at the second end of said tubular body;

wherein said central portion consists essentially of a series of cylindrical bands and a plurality of straight, generally non-sinusoidal, longitudinal connectors extending between and connecting adjacent cylindrical bands, each cylindrical band comprising a series of generally non-sinusoidal diagonal elements connected to one another and extending about the circumference, the diagonal elements having a generally arcuate shape, all diagonal elements in each band being oriented in either a clockwise or counter-clockwise direction about the circumference, and

each longitudinal connector extending substantially parallel to the longitudinal axis when the tubular body is in an enlarged condition after deployment in the body lumen.

2. (Original) The stent of claim 1, wherein the tubular body comprises a coiled-sheet.

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3. (Original) The stent of claim 1, wherein the tubular body is expandable between a contracted condition for facilitating introduction into a body lumen and an enlarged condition for engaging a wall of a body lumen.

4. (Original) The stent of claim 3, wherein the tubular body is biased towards the enlarged condition.

5. (Original) The stent of claim 3, wherein the zig-zag pattern is expandable between an unstretched condition and a stretched condition, the zig-zag pattern being biased towards the stretched condition above a transition temperature which is substantially below body temperature, thereby at least partially defining the enlarged condition.

6. (Original) The sent of claim 5, wherein ends of adjacent diagonal elements are arranged further away from one another about the circumference in the stretched condition than in the unstretched condition.

7. Previously Cancelled

8. (Original) The stent of claim 1, wherein all of the diagonal elements in all of the bands comprising the tubular body are oriented in a clockwise direction about the circumference.

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9. (Original) The stent of claim 1, wherein the longitudinal connectors have a longitudinal dimension which is substantially smaller than a longitudinal dimension of the diagonal elements.

10. (Original) The stent of claim 1, wherein each diagonal element comprises first and second generally straight portions having first and second ends, the second ends being connected together in a curved portion, the first ends being connected to preceding and succeeding diagonal elements.

11. (Original) The stent of claim 1, wherein the diagonal elements of each cylindrical band are out of phase with any adjacent cylindrical band.

12. (Seventh time amended) A stent, comprising:
a generally tubular body having a longitudinal axis, a circumference, a first end located at one longitudinal terminus of the tubular body, a second end located at a second longitudinal terminus of the tubular body, and having a size adapted for introduction into a body lumen, said tubular body having a central portion located between a first cylindrical band located at a first end of said tubular body and a second cylindrical band located at a second end of said tubular body;

wherein said central portion consists essentially of a plurality of generally bat-shaped cells and a plurality of straight, generally non-sinusoidal, longitudinal connectors

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extending between and connecting adjacent cells, each of said generally bat-shaped cells formed from generally non-sinusoidal cylindrical bands in the tubular body, each cell defining a head region, a tail region and opposing curved wing regions, the head region of each cell being connected to the tail region of an adjacent cell, and

each connector extending substantially parallel to the longitudinal axis when the tubular body is in an enlarged condition after deployment in the body lumen.

13. (Original) The stent of claim 12, wherein the head and tail regions are aligned about the circumference, and the wing regions have a generally "V" shape extending longitudinally away from the head and tail regions.

14. (Original) The stent of claim 13, wherein the cells are arranged sequentially about the circumference, thereby defining a cylindrical band.

15. (Previously Amended) The stent of claim 14, wherein the tubular body comprises a plurality of cylindrical bands, each cylindrical band comprising a sequence of bat shaped cells, adjacent cylindrical bands being connected to one another by connectors extending substantially parallel to the longitudinal axis.

16. Previously Cancelled.

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17. (Original) The stent of claim 12, wherein the wing regions are defined by first and second arcuate members, the first and second arcuate members comprising a pair of generally straight portions connected to one another by a curved portion.

18. (Previously Amended) The stent of claim 17, wherein the curved portion defines an apex of the curved wing regions, the apices all pointing substantially in a single direction.

19. (Previously Amended) The stent of claim 17, wherein each head region is defined by a longitudinal connector extending between the first arcuate members of the opposing wing regions of the respective cell, and the tail region is defined by a longitudinal connector extending between the second arcuate members of the opposing wing regions of the respective cell.

20. (Original) The stent of claim 19, wherein one of the generally straight portions of each of the first and second arcuate members is substantially shorter than the other generally straight portion of the respective arcuate member.

21. (Previously Amended) The stent of claim 19, wherein the longitudinal connector defining the tail region also defines the head region of an adjacent cell.

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22. (Previously Amended) The stent of claim 12, wherein the plurality of connectors comprise a longitudinal connector extending between a wing region of a first cell and a wing region of an adjacent cell.

23. (Original) The stent of claim 11, wherein the tubular body comprises a coiled-sheet.

24. (Original) The stent of claim 11, wherein the tubular body is expandable between a contracted condition for facilitating introduction into a body lumen and an enlarged condition for engaging a wall of a body lumen.

25. (Original) The stent of claim 24, wherein the tubular body is biased towards the enlarged condition.